



JWG 11/10/03

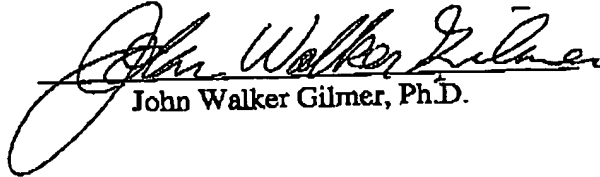
DECLARATION UNDER 37 C.F.R. 1.131

John Walker Gilmer, Ph.D. declare as follows:

1. I am a Research Associate for Eastman Chemical Company, and I have a Ph.D. in Physical Chemistry. A copy of my curriculum vitae is attached hereto as Exhibit A.
2. I am a co-inventor, who on December 7, 1998, filed U.S. Provisional Patent Application Serial No. 60/111,202, to which the present application claims priority.
3. My co-inventors and I invented the present invention in this country prior to August 17, 1998.
4. As demonstrated in Example 1 and the related wide angle X-ray diffraction (WAXD) profile dated June 4, 1998, of U.S. Provisional Patent Application Serial No. 60/111,202 attached hereto as Exhibit B, my co-inventors and I were in possession of the claimed exfoliated polymer-platelet nanocomposites of the present invention.
5. On or around June 4, 1998, we used wide angle X-ray diffraction (WAXD) analysis to determine the diffraction profile of SCPX-1578 organomontmorillonite clay incorporated into oligomeric poly(m-xylyladipamide polyamide) (the oligomer) thereby forming a concentrate, which was incorporated into MXD6 polyamide (the matrix polymer) and extruded to form the nanocomposite.
6. SCPX-1578 organomontmorillonite clay is pretreated with an onium compound and was obtained from Southern Clay Products.
7. MXD-6 polyamides were used as both the intercalating oligomer and the matrix polymer.
8. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are

punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

11/10/03
Date


John Walker Gilmer, Ph.D.

JOHN W. GILMER

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date of birth: July 14, 1956

CAREER SUMMARY:

Extensive experience in the research and development of polymeric materials. Expertise is broad in scope, including polymer blends, nanostructured materials, polyesters, engineering polymers, microwave processing, and polymer morphology. A creative, results-oriented professional who effectively structures research for the development of new and improved products.

TECHNICAL AND PROFESSIONAL EXPERIENCE:

Research Associate (2000-present), Principal Research Chemist (1994 to 2000), Polymers Technology Division and Polymers Research Division, Eastman Chemical Company

- Focus Team Leader for use of artificial and natural weathering analysis to improve the weatherability of Eastman's specialty copolyesters.
- Development of commercially viable UV-curable hardcoat for Eastman copolyester film and sheet
- Project team leader in the development of a plasticized polyester resin for calendering. Establishment of marketing know-how for Eastman in polymer resins for calendering and strong technical position in polyester resins for flexible sheet and film. Composed and distributed technology guide on flexible Tsunami™ to key customers.
- Key player in the planning and development of Eastman's market leading expertise and technology position in high barrier, nanocomposite materials for multilayer packaging. Placed Eastman in a competitive position as a player in the plastic beer bottle market.
- Conceived and executed plans to leverage nanocomposite technology with polyesters. Leader of Project team utilizing nanocomposites for medical applications.
- Established in-depth understanding of the physics of polymer/layered silicate composites and key factors affecting the layer-by-layer dispersion of clays into polymers.
- Established utility of organoclays as melt strength enhancing additives for polymers.
- Established in-depth understanding of the morphology, rheology, and crystallization kinetics of MXD6 nanocomposites.
- Capture of technology base for Eastman in high barrier thermoplastic materials through extensive patenting.
- Created Reactive Processing Technology for Polyesters.
- Key player in joint development with Nanocor of high barrier nanocomposites for packaging.
- Coordinator of nanocomposite project with Dr. Rudolf Puffr at the Czech Academy of Sciences. Discovery of organoclay resulting in 100% exfoliation in PET.
- Leader of a collaborative project with Emmanuel Giannelis at Cornell University, successful in identifying the key structural features present in gallery region of layered clays and the role of non-mean field effects in clay polymer mixing.

Project Leader, Blends and Alloys of Engineering Polymers, EniChem America (1988-1994)

- Supervision of Project Team for the Development of High Temperature PET Based Blends.
- Instrumental in Obtaining Project Funding from Parent Corporation (ENI).
- Compatibilized the PET/PPE Blend System to Create High HDT, Solvent Resistant Blend.
- Developed Proprietary Crystallization Technology for PET Injection Molding Resins.

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- Assisted in Premarketing Assessment of Molding Resin and Transfer of Technology to Italian Production Divisions.
- Created Novel Chain Extension Technology for PET.
- Designed Additive as Combined Nucleation Agent and Nonhalogenated Flame Retardant for PET.
- Followed Emerging Technologies and Markets for PET.
- Provided Regular Presentations to the Divisional Research Management to Update Progress of Projects and to Propose New Areas of Research and Product Development.
- Coordinated Research Project with Prof. L. Sperling at Lehigh University on the Use of Vegetable Oil Derivatives for the Enhancement of Polyesters.
- Developed Research Program with Dr. M. DeMeuse Utilizing Microwave Technology to Expand Markets of Polyethylenes and Polyesters.
- Initiated Microwave Approach for Crosslinking Polyethylenes in Wire and Cable Applications.

**Assistant Professor of Polymer Science, Department of Materials Science and Engineering
Penn State University (1985-1988)**

- Established Research Program on the Effect of Molecular Architecture on Multicomponent Polymers, Chain Transfer Reactions in Polyesters, and Composites of High Temperature Polymers in Aluminum, and Molecular Composite Materials.
- Instructed Graduate Courses in Crystalline Polymers and Scattering of Polymers. Undergraduate Instruction in Polymers as Materials, Polymer Crystallization, Undergraduate Polymer Field Trip, and Senior Seminar.
- Chaired the Penn State Polymer Symposium 1987 and 1988.

**Postdoctoral Fellow, Institute for Technical and Macromolecular Chemistry
University of Hamburg, Germany, Professor H.-G. Zachmann, Advisor (1983-1985)**

- Pioneered the Use of Small Angle Neutron Scattering to Definitively Follow Transesterification in Polyesters. (Collaborative with Professor E.W. Fischer at the Max Planck Institute of Polymer Research)
- Assessed Crystallite Orientation in Polypropylene Sheets as a Function of Extrusion Conditions. (Collaborative with Professor G. Menges at the Institute for Plastics Processing)

Graduate Research Assistant, Departments of Chemistry and Polymer Science & Engineering, University of Massachusetts, Professor R. S. Stein, Advisor (1978-1983)

- Research Among the First to Use Light Scattering to Follow Phase Separation in Polymer Blends and to Extend Neutron Scattering Studies of Blends to the Regions of High Concentration.

EDUCATION:

Ph.D.	Physical Chemistry	1984	University of Massachusetts
B.S.	Chemistry	1978	College of William and Mary

PROFESSIONAL ORGANIZATIONS:

American Chemical Society, Polymer Chemistry and PMSE Divisions
Member-at-Large of the PMSE Executive Committee (1994-present)
Responsibilities: Editor, PMSE Newsletter and Public Relations